Amendments to the Claims:

The listing of claims replaces all prior versions, and listings, of claims in the application.

Listing of Claims:

1.   (Currently Amended) An image processing system, comprising:

an input for receiving an input signal; and

a correlated double sampler (CDS) for receiving the input signal, sampling the input signal and providing an output signal, the CDS comprising an amplifier for amplifying the input signal and a variable capacitance unit having first and second variable input capacitances, the first variable input capacitance being connected to a first input of the amplifier and the second variable input capacitance being connected to a second input of the amplifier.

2.   (Original) The image processing system of claim 1, wherein gain in the CDS is settable to one of a plurality of levels.

3.   (Original) The image processing system of claim 1, wherein gain in the CDS is settable to one of four levels.

4.   (Original) The image processing system of claim 1, wherein gain in the CDS is settable to a level between 1.0 and 2.0.

5.   (Original) The image processing system of claim 1, wherein gain in the CDS is settable by a digital input signal.

6.   (Original) The image processing system of claim 5, wherein the digital input signal contains a plurality of bits.

7.   (Original) The image processing system of claim 1, further comprising a programmable gain amplifier (PGA) for receiving the output signal from the CDS and amplifying the received signal.

8.   (Original) The image processing system of claim 7, wherein gain in the PGA is settable to one of a plurality of levels.

9.   (Original) The image processing system of claim 7, wherein gain in the PGA is settable to a level between 1.0 and 2.0.

10.   (Original) The image processing system of claim 7, wherein gain of the PGA is settable by a digital input signal.

11.   (Original) The image processing system of claim 10, wherein the digital input signal contains a plurality of bits.

12.   (Original) The image processing system of claim 11, wherein a first portion of the bits is applied to the CDS to set the gain of the CDS and a second portion of the bits is applied to the PGA to set the gain in the PGA.

13.   (Original) The image processing system of claim 7, wherein an overall gain of the system comprises a combination of gain in the CDS and gain in the PGA.

14.   (Original) The image processing system of claim 13, wherein the overall gain is pseudo-logarithmic.

15.   (Currently Amended) An image processing system, comprising:
        a correlated double sampler (CDS) for receiving an input signal, sampling the input signal and providing an output signal, the CDS comprising an amplifier for amplifying the input signal and a variable capacitance unit having first and second variable input capacitances, the first variable input capacitance being connected to a first

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input of the amplifier and the second variable input capacitance being connected to a second input of the amplifier; and

a programmable gain amplifier (PGA) for receiving the output signal from the CDS and amplifying the received signal.

16.   (Original) The image processing system of claim 15, wherein gain in the CDS is settable to one of a plurality of levels.

17.   (Original) The image processing system of claim 15, wherein gain in the CDS is settable to one of four levels.

18.   (Original) The image processing system of claim 15, wherein gain in the CDS is settable to a level between 1.0 and 2.0.

19.   (Original) The image processing system of claim 15, wherein gain in the PGA is settable to one of a plurality of levels.

20.   (Original) The image processing system of claim 15, wherein gain in the PGA is settable to a level between 1.0 and 2.0.

21.   (Original) The image processing system of claim 15, wherein a gain in the CDS and a gain in the PGA are settable by a digital input signal.

22.   (Original) The image processing system of claim 21, wherein the digital input signal contains a plurality of bits.

23.   (Original) The image processing system of claim 22, wherein a first portion of the bits is applied to the CDS to set gain in the CDS and a second portion of the bits is applied to the PGA to set gain in the PGA.

24.   (Original) The image processing system of claim 15, wherein an overall gain of the system comprises a combination of gain in the CDS and gain in the PGA.

25.   (Original) The image processing system of claim 24, wherein the overall gain is pseudo-logarithmic.

26.   (Currently Amended) A method of processing an image, comprising:
        receiving an input signal; and
        providing a correlated double sampler (CDS) for receiving the input signal, sampling the input signal and providing an output signal, the CDS comprising an amplifier for amplifying the input signal and a variable capacitance unit having first and second variable input capacitances for setting gain in the CDS, the first variable input capacitance being connected to a first input of the amplifier and the second variable input capacitance being connected to a second input of the amplifier.

27.   (Original) The method of claim 26, further comprising setting gain in the CDS to one of a plurality of levels.

28.   (Original) The method of claim 26, further comprising setting gain in the CDS to one of four levels.

29.   (Original) The method of claim 26, further comprising setting gain in the CDS to a level between 1.0 and 2.0.

30.   (Original) The method of claim 26, further comprising setting gain in the CDS using a digital input signal.

31.   (Original) The method of claim 30, wherein the digital input signal contains a plurality of bits.

32.   (Original) The method of claim 26, further comprising providing a programmable gain amplifier (PGA) for receiving the output signal from the CDS and amplifying the received signal.

33.   (Original) The method of claim 32, further comprising setting gain in the PGA to one of a plurality of levels.

34.   (Previously Presented) The method of claim 32, further comprising setting gain in the PGA to a level between 1.0 and 2.0.

35.   (Previously Presented) The method of claim 32, further comprising setting gain in the PGA using a digital input signal.

36.   (Original) The method of claim 35, wherein the digital input signal contains a plurality of bits.

37.   (Original) The method of claim 36, wherein a first portion of the bits is applied to the CDS to set the gain of the CDS and a second portion of the bits is applied to the PGA to set the gain in the PGA.

38.   (Previously Presented) The method of claim 32, wherein an overall gain of the system comprises a combination of gain in the CDS and gain in the PGA.

39.   (Original) The method of claim 38, wherein the overall gain is pseudo-logarithmic.

40.   (Currently Amended) A method of processing an image, comprising:
        providing a correlated double sampler (CDS) for receiving an input signal, sampling the input signal and providing an output signal, and amplifying the input signal, the CDS comprising a variable capacitance unit having first and second variable input capacitances for setting gain in the CDS, the first variable input capacitance being

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connected to a first input of an amplifier and the second variable input capacitance being
connected to a second input of the amplifier; and

      providing a programmable gain amplifier (PGA) for receiving the output signal
from the CDS and amplifying the received signal.

41.   (Original) The method of claim 40, further comprising setting gain in the CDS to
one of a plurality of levels.

42.   (Original) The method of claim 40, further comprising setting gain in the CDS to
one of four levels.

43.   (Original) The method of claim 40, further comprising setting gain in the CDS to
a level between 1.0 and 2.0.

44.   (Original) The method of claim 40, further comprising setting gain in the PGA to
one of a plurality of levels.

45.   (Original) The method of claim 40, further comprising setting gain in the PGA to
a level between 1.0 and 2.0.

46.   (Original) The method of claim 40, further comprising setting gain in the CDS
and gain in the PGA using a digital input signal.

47.   (Original) The method of claim 46, wherein the digital input signal contains a
plurality of bits.

48.   (Original) The method of claim 47, wherein a first portion of the bits is applied to
the CDS to set gain in the CDS and a second portion of the bits is applied to the PGA to
set gain in the PGA.

49.　　(Original)　The method of claim 40, wherein an overall gain of the system comprises a combination of gain in the CDS and gain in the PGA.

50.　　(Original)　The method of claim 49, wherein the overall gain is pseudo-logarithmic.